BUTZEL LONG
TIGHE PATTON PLLC

Stephen L. Goodman
202 454 2851
sgoodman@butzeltp.com

1747 Pennsylvania Avenue N.W., Suite 300
Washington, D.C. 20006
T: 202 454 2800 **F:** 202 454 2805
www.butzeltp.com

Licensed in D.C. and Florida

January 4, 2010

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: Submissions for the Record -- GN Docket No. 09-51

Dear Ms. Dortch:

ADTRAN, Inc. ("ADTRAN") is filing two White Papers into the record in the Commission proceeding to develop a National Broadband Plan. The first submission is a White Paper concerning capacity of various broadband Internet access architectures -- "Defining Broadband Speeds: Estimating Capacity in Access Network Architectures." This White Paper assesses the extent to which various wireless and wireline facilities will be needed to support network capacity required for consumer broadband access through 2015. To perform this analysis, the paper first identifies the maximum area that theoretically could be served by various technologies' access nodes. The paper then considers whether the size of the coverage area will need to be reduced to ensure sufficient capacity is available to support multiple subscribers on the same access node. Given policymakers' interest in rural deployment, this analysis focuses on the impact of subscriber densities expected in rural areas, and does not explore the constraints posed by subscribership in more densely populated towns and urban areas.

The second paper – "Defining Broadband Speeds: Deriving Required Capacity in Access Networks" -- is an updated version of an ADTRAN White Paper that had been attached to the comments filed in this proceeding by ADTRAN on November 4, 2009, and provides projections for traffic demand and required capacity, based on estimates and projections in Cisco's Visual Networking Index. The traffic volumes provided in the index are converted to estimates of per-household traffic, with scaling added to account for diurnal patterns. The mean traffic is then scaled to account for self-similar traffic distributions, resulting in per-user capacity requirements. This paper has been updated to reflect feedback from service providers. The first version scaled mean traffic volume by 4:1 (2:1 for burstiness and a second 2:1 scaling for node-to-node variation) to generate required capacity. The current version eliminates the second 2:1 scaling in favor of monitoring and upgrading capacity on a node-to-node basis in deployed networks.

In accordance with Section 1.1206 of the Commission's Rules, a copy of this notice is being filed via the Electronic Comment Filing System in the docket for the above-captioned proceeding. Please contact the undersigned if you have any questions with regard to this matter.

Sincerely,

/s/
Stephen L. Goodman
Counsel for ADTRAN, Inc